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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,229	06/25/2004	Raimund Kram	03869-105012	7455

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EXAMINER	
HARTMAN JR, RONALD D	

ART UNIT	PAPER NUMBER
2121	

NOTIFICATION DATE	DELIVERY MODE
04/01/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

AustinUSPTO@kslaw.com
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Office Action Summary	Application No.	Applicant(s)	
	10/500,229	KRAM ET AL.	
	Examiner	Art Unit	
	RONALD D. HARTMAN JR	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-50 and 52-56* is/are pending in the application.

4a) Of the above claim(s) *22 and 45-50* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-44 and 52-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections (New)

Based on applicants amendment filed on 1/21/2011, claim 41 is now objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim, that is, of independent claim 33. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim Rejections - 35 USC § 102 (maintained)

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 23-29, 32-37, 39-42, 44 and 52-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Casler, Jr. et al., U.S. Patent No. 4,772,831.

As per claims 23-24, 33, 37, 44, 52 and 54-55, Casler, Jr. et al. disclose a software system for movement and trajectory planning for a robot. Boyer discloses a movement control profile of higher degree (e.g. Figure 5 and 6, also Abstract, specifically paragraphs 3 and 4; also C3 L19-34; C7 L60 – C8 L36; C10 L28 – C11 L21), the profile comprising at least two different variables, one being time or location dependent, wherein the profile is created based on the variables, and a program that activates the profile (e.g. See Figure 6A, 6C, 6D, 7A and 7B-1, as well as their corresponding textual descriptions).

As per claims 25 and 34, Casler, Jr. et al. disclose the utilization of spline interpolations (e.g. Figure 7B-1, element 446A).

As per claims 26-27 and 35, Casler, Jr. et al. disclose the utilization of a polynomial interpolation, of up to at least the 6th order (e.g. Figure 5 and 6, also Abstract, specifically paragraphs 3 and 4; also C3 L19-34; C7 L60 – C8 L36; C10 L28 – C11 L21).

As per claims 28 and 36, Casler, Jr. et al. teach the utilization of trigonometric functions (e.g. inverse trigonometric functions; C12).

As per claims 29 and 37, Casler, Jr. et al. disclose a plurality of segments formed from mathematical equations (e.g. See Abstract, specifically paragraph 3).

As per claim 32, Casler, Jr. et al. disclose a movable machine element being associated with an axis (e.g. See Figure 1 and 7B-1, as well as their corresponding textual descriptions)

As per claims 39-40, 53 and 56, Casler, Jr. et al. disclose a physical variable being representative of position (e.g. tool movements and/or joint orientation angles).

As per claims 23, 33, 41 and 44, since Casler, Jr. et al. does not disclose the profile being defined using units, per se, the features claimed in claim 41 are met by Casler et al.

As per claim 42, a program processing phase, per se, is disclosed by Casler Jr., et al. since Casler, Jr. et al. disclose a planning program and a trajectory program determining movements of a robotic arm, the processing phase has been interpreted to correspond to the planning and/or the trajectory planning program, programs which are clearly disclosed by Casler, Jr. et al.

Claim Rejections - 35 USC § 103 (maintained)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 30-31 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Casler, Jr. et al., as applied to claim 29 above, in view of Heber et al., U.S. Patent No. 6,701,210.

As per claims 30-31 and 38, Casler, Jr. et al. does not specifically disclose connecting unconnected path segments using transitional segments.

Heber et al. teaches this feature (e.g. See Figure 1, its corresponding textual descriptions, also see C3 L21-25).

It would be obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Heber et al. into the system disclosed by Casler, Jr. et al. for the purpose of allowing an effective way by which a smooth transition between un-successive movements can be made in an efficient manner, thereby improving overall movements of a robot.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Casler, Jr. et al., as applied to claim 33 above, in view of Horiuchi et al., U.S. Patent No. 5,325,472.

As per claim 43, Casler, Jr. et al. does not specifically disclose a graphical tool.

Horiuchi et al. disclose this feature (e.g. Figure 9).

It would be obvious to include the features disclosed by Horiuchi et al. into the system disclosed by Casler, Jr. et al. for the purpose of allowing a visual representation of segment interpolation.

Response to Arguments

The applicant has amended independent claims 23, 33 and 44 to include a feature whereby the profile is created without any units and has argued that the inclusion of this feature defeats the rejection proposed using Casler, Jr. et al. since Casler et al. does not disclose the profile being created without units.

The examiner respectfully disagrees and upon review of Casler, Jr. et al., the examiner can find no explicit recitation that the profile must be defined using units, per se, in a context commensurate with the applicants claiming of such feature.

Generically defining an axis as time or velocity is not viewed to be the same as defining the axis using units, per se. That is, there are many units of measurement that can be associated with velocity and time (two examples of profile axes disclosed by Casler, Jr. et al.), but Casler, Jr. et al. only generically describes the axes and doesn't require any specifics with respect to which units should or shouldn't be used.

That being said, it is the examiner's opinion that Casler, Jr. et al. disclosure of generically describing axes without explicitly describing any specific units to be associated therewith is adequate to anticipate a feature whereby the profile is created without using units, per se.

Therefore, since this appears to be applicant's only contention with respect to the rejection using Casler, Jr. et al., the rejection using Casler, Jr. et al. is once again applied and this action is being made Final.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD D. HARTMAN JR whose telephone number is (571)272-3684. The examiner can normally be reached on Mon (12pm - 8pm), Tues (4pm - 8pm) and Fri (12pm - 8pm) EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 26, 2011
RDH

/Ronald D Hartman Jr./
Primary Examiner
Art Unit 2121